



# AUTUMN

## Forecasting Fire

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**Y**ou only have to pick up the paper or tune into a news program to see the destructive power of wild fires. Each and every year, millions of acres of land go up in flames. The causes of these fires vary from arson to lightning but the effect is always the same, vast destruction of forests and sometimes the very lives of people who have decided to live there. While the wildfires of the west often grab the headlines, no area outside our major cities is totally immune from the effects of a wildfire.

You might not think so, but the National Weather Service is very involved when it comes to forest fires. The NWS provides land managers specialized fire weather forecasts. Overall, the objective of the fire weather program is to provide meteorological support to wild land fire management agencies for the protection of life and property.



*Photo by Chris Holbeck*

This support includes warnings, forecasts, on-site service during wildfires, and meteorological training for fire fighters. Weather is one of the most significant factors

in determining the severity of wild land fires. The spread rate and intensity of fires is directly related to the wind speed, temperature and relative humidity. Climatic conditions such as long term drought also play a major role in the number and intensity of wildfires. Accurate and timely weather information is vital to the planning and execution of strategies for suppressing wildfires. An accurate weather forecast can mean life or death to a fire fighter and is also critical in

protecting forest and rangelands as well as the increasing number of homes being built in areas prone to fires.

The National Weather Service issues a fire weather forecast twice a day with a strong emphasis on elements crucial to fire weather behavior. These factors include humidity, winds on both the surface and aloft, stability and smoke dispersion. The National Weather Service also issues a variety of specialized products for the fire fighting community. A few of these products include:

**Red Flag Warning** - A Red Flag Warning is issued when forecast weather conditions together with existing environmental conditions could result in extreme fire behavior or, as in the case of dry lightning, extensive fire starts within the next 24 hours.

**Fire Weather Watch** - A Fire Weather Watch is issued when Red Flag conditions are possible within the next 72 hours.

**National Fire Danger Rating Forecasts** - Point forecasts are issued for selected observation sites. These forecasts are used as input for the National Fire Danger Rating System which generates indexes which are used in determining fire danger for a given area and to plan for the necessary human and other resources needed to fight wildfires.

**Spot Forecasts** - These site specific forecasts are issued at the request of user agencies. They are generally used for the planning and safe control of prescribed burns. Spot forecasts may also be requested by fire managers planning the suppression of a wildfire.

